

# Insights on the Molecular Mechanisms Underlying the Anticancer Activity of Lactoferrin in Metastatic Cancer Cell Lines

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Lactoferrin (Lf) is an iron-binding protein derived from milk that is present in many tissues and biological fluids. It has been shown that this natural compound exhibits anticancer and anti-metastatic activities as well as cytotoxicity against several cancer cell lines. We have recently found that bovine lactoferrin (bLf) selectively triggers cell death in highly metastatic breast cancer cells

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cells. To this end, we assessed bLf-induced inhibition of cell proliferation and intracellular acidification of a prostate and an osteosarcoma metastatic cell line and compared it with the effects on the previously used metastatic breast cancer cell line. The possibility of a common molecular target/mechanism of action of bLf underpinning its anticancer/anti-metastatic activity will be discussed.

## References:

1. Cátia S. Pereira, Joana P. Guedes, Marília Gonçalves, Luís Loureiro, Lisandra Castro, Hernâni Gerós, Lígia R. Rodrigues, Manuela Côrte-Real: Lactoferrin selectively triggers apoptosis in highly metastatic breast cancer cells through inhibition of plasmalemmal V-H<sup>+</sup>-ATPase. *Oncotarget* 2016, 1-15.

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